

September 17, 2020

Kenny Hemmen
Geotechnology, Inc.
11816 Lackland Road
St. Louis, MO 63146
TEL: (314) 997-7440
FAX: (314) 997-2067



RE: OU3 - City Well 8

WorkOrder: 20090550

Dear Kenny Hemmen:

TEKLAB, INC received 2 samples on 9/9/2020 2:15:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,



Emily Pohlman
Project Manager
(618)344-1004 ex 44
epohlman@teklabinc.com

Client: Geotechnology, Inc.

Work Order: 20090550

Client Project: OU3 - City Well 8

Report Date: 17-Sep-2020

This reporting package includes the following:

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Client: Geotechnology, Inc.**Work Order:** 20090550**Client Project:** OU3 - City Well 8**Report Date:** 17-Sep-2020**Abbr Definition**

* Analytes on report marked with an asterisk are not NELAP accredited

CCV Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.

CRQL A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL.

DF Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors.

DNI Did not ignite

DUP Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision.

ICV Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.

IDPH IL Dept. of Public Health

LCS Laboratory control sample is a sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system.

LCSD Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).

MBLK Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.

MDL "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results."

MS Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).

MSD Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).

MW Molecular weight

ND Not Detected at the Reporting Limit

NELAP NELAP Accredited

PQL Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions.

RL The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.

RPD Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).

SPK The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.

Surr Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.

TIC Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET"

TNTC Too numerous to count (> 200 CFU)

Qualifiers

- Unknown hydrocarbon

C - RL shown is a Client Requested Quantitation Limit

H - Holding times exceeded

J - Analyte detected below quantitation limits

ND - Not Detected at the Reporting Limit

S - Spike Recovery outside recovery limits

X - Value exceeds Maximum Contaminant Level

B - Analyte detected in associated Method Blank

E - Value above quantitation range

I - Associated internal standard was outside method criteria

M - Manual Integration used to determine area response

R - RPD outside accepted recovery limits

T - TIC(Tentatively identified compound)



Case Narrative

<http://www.teklabinc.com/>

Client: Geotechnology, Inc.

Work Order: 20090550

Client Project: OU3 - City Well 8

Report Date: 17-Sep-2020

Cooler Receipt Temp: 4.8 °C

Analysis was performed by American Water. See attached for results. EEP 9/16/2020

Locations

Collinsville

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email jhriley@teklabinc.com

Collinsville Air

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email EHurley@teklabinc.com

Springfield

Address 3920 Pintail Dr
Springfield, IL 62711-9415
Phone (217) 698-1004
Fax (217) 698-1005
Email KKlostermann@teklabinc.com

Chicago

Address 1319 Butterfield Rd.
Downers Grove, IL 60515
Phone (630) 324-6855
Fax
Email arenner@teklabinc.com

Kansas City

Address 8421 Nieman Road
Lenexa, KS 66214
Phone (913) 541-1998
Fax (913) 541-1998
Email jhriley@teklabinc.com

Client: Geotechnology, Inc.**Work Order:** 20090550**Client Project:** OU3 - City Well 8**Report Date:** 17-Sep-2020

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2021	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2021	Collinsville
Louisiana	LDEQ	05002	NELAP	6/30/2021	Collinsville
Louisiana	LDEQ	05003	NELAP	6/30/2021	Collinsville
Oklahoma	ODEQ	9978	NELAP	8/31/2021	Collinsville
Arkansas	ADEQ	88-0966		3/14/2021	Collinsville
Illinois	IDPH	17584		5/31/2021	Collinsville
Kentucky	UST	0073		1/31/2021	Collinsville
Missouri	MDNR	00930		5/31/2021	Collinsville
Missouri	MDNR	930		1/31/2022	Collinsville



Laboratory Results

<http://www.teklabinc.com/>

Client: Geotechnology, Inc.

Work Order: 20090550

Client Project: OU3 - City Well 8

Report Date: 17-Sep-2020

Lab ID: 20090550-001

Client Sample ID: 52238401 (W-8)

Matrix: DRINKING WATER

Collection Date: 09/09/2020 8:45

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		See Attached		1	09/10/2020 0:00	R281592



Receiving Check List

<http://www.teklabinc.com/>

Client: Geotechnology, Inc.

Work Order: 20090550

Client Project: OU3 - City Well 8

Report Date: 17-Sep-2020

Carrier: Jacob Wilson

Received By: KMT

Completed by:

Reviewed by:

On:

On:

09-Sep-2020

09-Sep-2020

Amber M. Dilallo

Elizabeth A. Hurley

Pages to follow:

Chain of custody

1

Extra pages included

9

Shipping container/cooler in good condition?

Yes ☒

No ☐

Not Present ☐

Temp °C 4.8

Type of thermal preservation?

None ☐

Ice ☒

Blue Ice ☐

Dry Ice ☐

Chain of custody present?

Yes ☒

No ☐

Chain of custody signed when relinquished and received?

Yes ☒

No ☐

Chain of custody agrees with sample labels?

Yes ☒

No ☐

Samples in proper container/bottle?

Yes ☒

No ☐

Sample containers intact?

Yes ☒

No ☐

Sufficient sample volume for indicated test?

Yes ☒

No ☐

All samples received within holding time?

Yes ☒

No ☐

Reported field parameters measured:

Field ☐

Lab ☐

NA ☒

Container/Temp Blank temperature in compliance?

Yes ☒

No ☐

When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.

Water - at least one vial per sample has zero headspace?

Yes ☒

No ☐

No VOA vials ☐

Water - TOX containers have zero headspace?

Yes ☐

No ☐

No TOX containers ☒

Water - pH acceptable upon receipt?

Yes ☒

No ☐

NA ☐

NPDES/CWA TCN interferences checked/treated in the field?

Yes ☐

No ☐

NA ☒

Any No responses must be detailed below or on the COC.

pg. 1 of 1 Work order # 20090550

[illegible]

9/9/20



American Water
1115 South Illinois Street
Belleville, IL 62220-3102
Phone: (618) 235-3600
Fax: (618) 235-6349



September 15, 2020

Emily Pohlman
Teklab Inc
5445 Horseshoe Lake Road
Collinsville, IL 62234

RE: Client: Teklab Inc - IL
Workorder #: 522384 Workorder ID: X-City Well 8 VOC
Profile #: 1282 Profile Name: TeklabClient

Dear Emily Pohlman:

Enclosed are the analytical results for sample(s) received by the laboratory on Wednesday, September 09, 2020. All analyses are performed using approved drinking water methodologies and meet method requirements unless otherwise noted. Enclosed are the analytical results for this Workorder only. Each state may not offer certification for all analyses reported.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Bill Deckelmann (Digitally Signed)
Laboratory Director

Report ID: 522384

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American Water
1115 South Illinois Street
Belleville, IL 62220-3102
Phone: (618) 235-3600
Fax: (618) 235-6349



SAMPLE SUMMARY

Workorder: 522384 Workorder ID: X-City Well 8 VOC

Test results meet all requirements of NELAP, unless otherwise specified.

Lab ID: 52238401	Sample ID: City Well 8	Matrix: Drinking Water		
	Facility ID:	Site ID:	Site Sample Type: Other	Certified Lab ID: 100203

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PROJECT SUMMARY

Workorder: 522384

Workorder ID: X-City Well 8 VOC

Workorder Comments

Teklab project #20090550

Teklab PO #30202

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ANALYTICAL RESULTS

Workorder: 522384

Workorder ID: X-City Well 8 VOC

FOR COMPLIANCE

Lab ID: 52238401

Date Received: 9/9/2020 17:36 ET

Matrix: Drinking Water

Sample ID: City Well 8

Date Collected: 9/9/2020 09:45 ET

* = TNI accredited Underlined = Reported to the State ET = Eastern Time (All Times normalized to Eastern Time) MCL
Parameters Results Units RDL DF Prepared By Analyzed By Qual Sec / Prim

VOLATILES

EPA 524.2		Analytical Method: EPA 524.2									
*Dichlorodifluoromethane	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH			
Chlorodifluoromethane	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH			
*Chloromethane	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH			
*Vinyl chloride	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH		2	
*Bromomethane	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH			
*Chloroethane	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH			
*Trichlorofluoromethane	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH			
*Trichlorotrifluoroethane	ND	ug/L	3.0	1			9/10/2020 15:38 ET	NH			
*1,1-Dichloroethene	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH		7	
*Methylene chloride	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH		5	
*trans-1,2-Dichloroethene	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH		100	
*Methyl tert-Butyl ether (MTBE)	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH			
*tert-Butyl ethyl ether (TBEE)	ND	ug/L	3.0	1			9/10/2020 15:38 ET	NH			
*1,1-Dichloroethane	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH			
*2,2-Dichloropropane	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH			
*cis-1,2-Dichloroethene	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH		70	
2-Butanone (MEK)	ND	ug/L	5.0	1			9/10/2020 15:38 ET	NH			
*Bromochloromethane	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH			
*Chloroform	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH			
*1,1,1-Trichloroethane	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH		200	
*Carbon tetrachloride	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH		5	
*1,1-Dichloropropene	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH			
*Benzene	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH		5	
*tert-Amyl methyl ether (TAME)	ND	ug/L	3.0	1			9/10/2020 15:38 ET	NH			
*1,2-Dichloroethane	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH		5	
*Trichloroethene (TCE)	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH		5	
*1,2-Dichloropropane	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH		5	
*Dibromomethane	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH			
*Bromodichloromethane	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH			
*cis-1,3-Dichloropropene	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1			9/10/2020 15:38 ET	NH			
*Toluene	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH		1000	
*trans-1,3-Dichloropropene	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH			
*Tetrachloroethene (PCE)	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH		5	
*1,1,2-Trichloroethane	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH		5	

Report ID: 522384

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Fax: (618) 235-6349



ANALYTICAL RESULTS

Workorder: 522384

Workorder ID: X-City Well 8 VOC

FOR COMPLIANCE

Lab ID: 52238401

Date Received: 9/9/2020 17:36 ET

Matrix: Drinking Water

Sample ID: City Well 8

Date Collected: 9/9/2020 09:45 ET

* = TNI accredited		Underlined = Reported to the State			ET = Eastern Time (All Times normalized to Eastern Time)					MCL	
Parameters	Results	Units	RDL	DF	Prepared	By	Analyzed	By	Qual	Sec	Prim
*1,3-Dichloropropane	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH			
2-Hexanone	ND	ug/L	5.0	1			9/10/2020 15:38 ET	NH			
*Dibromochloromethane	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH			
*Chlorobenzene	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH			100
*Ethyl Benzene	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH			700
*1,1,1,2-Tetrachloroethane	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH			
m,p-Xylene	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH			
o-Xylene	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH			
*Styrene	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH			100
*Bromoform	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH			
*Isopropylbenzene	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH			
*Bromobenzene	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH			
*1,1,2,2-Tetrachloroethane	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH			
*n-Propylbenzene	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH			
*1,2,3-Trichloropropane	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH			
*2-Chlorotoluene	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH			
*1,3,5-Trimethylbenzene	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH			
*4-Chlorotoluene	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH			
*tert-Butylbenzene	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH			
*1,4-Dichlorobenzene	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH			75
*1,2,4-Trimethylbenzene	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH			
*sec-Butylbenzene	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH			
*1,3-Dichlorobenzene	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH			
*4-Isopropyltoluene	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH			
*n-Butylbenzene	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH			
*1,2-Dichlorobenzene	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH			600
*1,2,4-Trichlorobenzene	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH			70
*Hexachlorobutadiene	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH			
*Naphthalene	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH			
*1,2,3-Trichlorobenzene	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH			
*Xylene (total)	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH			10000
1,3-Dichloropropene (total)	ND	ug/L	0.5	1			9/10/2020 15:38 ET	NH			

Report ID: 522384

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PWSID: NA

Teklab

1282 Facility ID:

CHAIN OF CUSTODY # 522384

Teklab Clients

X-Unknown VOC (1037192)

Scheduled Collect 09/04/2020

Matrix DW



PRIOR TO SHIPPING - COMPLETE ALL FIELDS

Location: Unknown

SiteID: _____

Sample Type (RAW,EFF,DIST,etc.) Other

Collector's First Initial and Last Name ** _____

Date Collected _____ Time Collected _____ (24 hr) Format

TAT requested [rush by adv notice only]

2wk ____ [1wk ____ 3 day ____ 2 day ____ 1 day ____]

**Collected and preserved in
accordance with Method
requirements

Relinquished by 1 _____ 2 _____ 3 _____

Date/Time Relinq 1 _____ 2 _____ 3 _____

Compliance/Process: **COMP**State Reporting by Lab? **N**CCR Report? **N**

Field Measurements

For Lab Use Only

Date:

09/09/20Temp: 3 °CReceived By: ①

COMMENTS:

reprinted CC, vials have labels
at 522384. ① 091020
all attached rec'd 11/26/20

Container ID #	Analysis Description	Cont Code	pH	Cl	Sulfide	Pre-Preservation
52238401-A	VOCs 524.2 DW					ASC+HCL
52238401-B	VOCs 524.2 DW					ASC+HCL
52238401-C	VOCs 524.2 DW					ASC+HCL
52238402-A	VOCs 524.2 DW					ASC+HCL

Thursday, September 10, 2020 9:56:44 AM

Cassie N Friederich

From: Elizabeth A. Hurley <EHurley@TekLabInc.com>
Sent: Wednesday, September 9, 2020 4:49 PM
To: Cassie N Friederich; Document - Belleville Lab
Cc: Amber Dilallo; Emily Pohlman
Subject: Teklab WO# 20090550

EXTERNAL EMAIL: The Actual Sender of this email is EHurley@teklabinc.com "Think before you click!".

Good afternoon, Cassie,

Teklab submitted a sample under WO# 20090550 for VOCs this afternoon, and there are errors on the CoC. Please note that the collection time is 0845 rather than 0745. Please reference PO# 30202 when billing for this WO#.

Thanks for making these corrections.

Have a great day!

Elizabeth Hurley
Director of Customer Service



Teklab, Inc.
5445 Horseshoe Lake Road
Collinsville, IL 62234
Phone: (618) 344-1004 Ext. 33
Cell: (618) 791-8119
Fax: (618) 344-1005
E-mail: ehurley@teklabinc.com
www.teklabinc.com

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